SIERA BEACON

Carson Valley, NV February 2019

"HAM radio is not a hobby. It's a way of life." - Carlos Beltran, XE1MW

Post-Holiday Party

SIERA had a good turnout our Post-Holiday Potluck with lots of great food and enthusiastic chatter among friends. For the first time, SIERA decided not to throw a party at a local venue and offer door prizes. Because we will be spending a lot of our budget on replacing, maintaining, and moving our NV7CV repeater to a new tower sometime in the next year, we will need to keep our treasury solvent. Thus, our thrift was rewarded with a groaning board of tasty entrees and desserts from our members. Thank you, ladies and gentlemen, for your generous spirit and culinary talents.

Our next General meeting will be held Saturday, February 2nd, at noon, at the United Methodist Church, 1375 Centerville Lane, in Gardnerville. Ed Fong, WB6IQN, will present a lecture on antenna design from his home in the Bay Area using Skype. According to his website, Ed is the inventor of the TBJ-1 antennas which are extremely popular with ham and commercial applications. He has published numerous articles in QST and CQ and in the ARRL VHF/UHF Antenna Classics, ARRL Vol 8 Antenna Compendium, ARRL Vol. 3 Antenna Compendium. The proceeds of these antennas go to support his group at UC Santa Cruz -Santa Clara Valley where he is a faculty member. You can find more information about Ed and his antennas on his website: https://edsantennas.weebly.com/

Dues are Due

Your dues help SIERA offer mentorship, classes, fun events, and community service. The most important thing your dues provide is the excellent NV7CV repeater that is used daily by local hams as well as recreationists and travelers throughout the area. As with all useful things, though, it requires maintenance and, soon, replacement to a new tower. All this costs bundles o' bucks. If you want to support SIERA, please send your checks to P.O. Box 2348, Minden, NV 89423 or snag Debbie Williams N7XYL at the meetings.

And while you've got the checkbook out, you might consider contributing a bit of cash or even joining CARS (Churchill Amateur Radio Society) and TARA (Tahoe Amateur Radio Association). Both provide repeaters that link to NV7CV and give wide coverage from Tahoe to way out eastward in the desert. The Pony Express Re-Ride has benefitted greatly from CARS' 147.345 repeater. Their 147.27 repeater is in bad need of repair and serves DCART nets and emergency work. And then there's BARC (Bishop Amateur Radio Club) who has linked several repeaters from south of Olancha to Carson City. Local hams use this network when camping along the eastern Sierra Nevada or while traveling between here and Southern California.

We are so lucky to have all these fine organizations working together to serve HAMs and our communities throughout the eastern Sierra Nevada and Great Basin regions. Here are links to these clubs for your convenience:

CARS https://www.nvcars.org/
TARA http://tahoeamateurradio.com/
BARC http://n6ov.com/

Radio Basics 101 Camp:

Jim Marshall's Basics 101 Camps are back on schedule, meeting Feb. 2nd at 11 a.m. in the United Methodist Church on Centerville Lane in Gardnerville every other week thereafter. Bring your questions and curiosity for a fun way to learn about amateur radio.

Into the Future

Technician's Exam Class: Jeff Cauhape K7BCV has started his Technician's class at Western Nevada College. You may still be able to sign up and prepare yourself for taking the Technician's exam, which will be offered as the class final. Contact him at: cauhape@protonmail.com for more details.

Pony Express: Tom Tabacco KE7NCJ still has need for hams to follow or relay communications for the Pony Express Re-Ride, scheduled to be in Nevada from June 17-19. If you're interested in participating in a fun adventure, email him at: smokey@pyramid.net.

ELMER'S WANTED: Dennie Hartman, KI7NVF, earned his Technician's license about a year ago and is finally getting some equipment. He lives in Reno and rarely makes it to our meetings here in Minden, but he's looking for QRP Elmer's to advise him with his new FT-818ND transceiver. If you'd like to help Dennie, please email him at: djhartman_76@icloud.com.

For Sale:

Yaesu FT-1000 mp 100-watt transceiver
1.8 thru 29 Mhz
Includes all filters plus Inrad roofing filters
LED light bar installed. (replaces CFL back light)
9 Mhz buffered IF output installed.
High Stability temperature compensated master Oscillator installed.
Dual receivers, offers split operation for DX contacts
Internal Antenna tuner installed.
Yaesu DNR (Dynamic Noise reduction), Plus IF shift and Contour controls.
Has been my "daily driver" for 7 years. Works perfect.
Look up reviews on EHAM.
Price, $1,500 Contact: Jim Marshall, 775-392 3734, k6lr@arrl.net

Old Friends:

Dorothy Uebele said she would love to have her friends from SIERA come visit in her Sheridan Acres home that she shares with her daughter, Susan. While she's no longer interested in talking on the radio, she is a font of information about SIERA's history. The retired librarian edited the club's newsletter for seven years and even received awards for its quality.

Another SIERA friend, Robert Winkleman, is now home and doing very well in his recovery from a stroke he suffered last autumn. In only three months, he has regained his speech and total movement from being paralyzed. He is so excited about his progress he is working to improve his musical abilities so he can produce CDs through his new company, Children of the Stars. He misses his SIERA friends and would love to have people come visit him, too.

Are you prepared?

By David DeAngelis K1SCN

I am sure that we are all aware of the effects that solar storms can have on radio communications. But, what if we should encounter a REALLY BIG one. We all should know that it is possible, and we have experienced some close calls before. On March 13, 1989 a solar storm was responsible for bringing down the Hydro-Quebec power grid. Fortunately, the grid was

down for only nine hours. A larger solar disruption, though, could be responsible for a truly catastrophic event.

A minor power interruption is a common occurrence (see the January 2019 issue of the *SIERA Beacon)* and people have learned to cope by using flashlights and candles and preparing meals on a grill. But, what happens when the grid is down for a second or third day? If the whole grid is down, there will be no cell phones, no TV broadcast/cable, nor commercial radio. Gasoline for your generator requires electricity in order to be pumped. Refrigerated foods will spoil, grocery store shelves will empty quickly. Are your automobile electronics safe from a strong EMP? You get the picture.

The "Mother of All Solar Storms" and the event to which all modern solar events are compared is **The Carrington Event**. From August 28 to September 2,1859, British astronomers Richard Carrington and Richard Hodgson observed a large number of sunspots and independently recorded the observation of what we now know to be a CME (Coronal Mass Ejection). When this CME impacted the earth's geomagnetic field on September 1, 1859 its arrival was recorded on earth-based magnetometers, but one did not need a magnetometer to observe the results. Auroras were seen around the world, even as far south as Columbia, South America; residents of the northeast US were reported to have been able to read their newspapers by the light of the aurora; gold miners in the Rocky Mountains awoke before sunrise, thinking the sun had risen. As an added feature to the impressive light show the aurora provided, the CME is believed to be responsible for inducing electrical currents in anything conductive. The telegraph systems in Europe and North America were disrupted, with some reports of operators suffering shocks; there were also reports of fires that were ignited around their lines from sparks flying from the telegraph poles. In addition, it was also reported that when telegraphers disconnected the batteries powering the lines, electric currents induced by the aurora still allowed messages to be transmitted! The Wikipedia article found at: **https://en.wikipedia.org/wiki/Solar_storm_of_1859** contains newspaper accounts of the event.

The only report I could find from our corner of the planet was a report in the *Tulare County Record* from Visalia, California. The September 3, 1859 edition reports:

"Thursday evening last, about 10 o'clock a remarkable phenomena made its appearance in the heavens, almost due north, in some respects resembling the Aurora borealis (sp), but not quite as distinct and variegated. At first it presented a narrow strip, as it were, extending from the horizon upward but soon commenced spreading and continued until nearly one quarter of the heavens seemed illuminated, which lasted for several hours. By some it was thought that it might have its origin from the burning of a city or town in that direction."

David Hathaway, solar physics team lead at NASA's Marshall Space Flight Center in Huntsville, Alabama said: "In the 160-year record of geomagnetic storms, the Carrington is the biggest. Energetic particles leave a record in nitrates in ice cores. Here again the Carrington event sticks out as the biggest in 500 years and nearly twice as big as the runner-up." (From the article found on: **https://science.nasa.gov/science-news/science-at-nasa/2008/06may_carringtonflare.**) In historical times, other large events were recorded in 1921,1960 and 2003 but they were about 1/5 the strength of the Carrington Event.

It doesn't take much of an imagination to guess what impact a similar event would have on our modern microelectronics. Very recent research has revealed the impact a smaller event caused in 1972. New research revealed as a result of declassified Navy documents

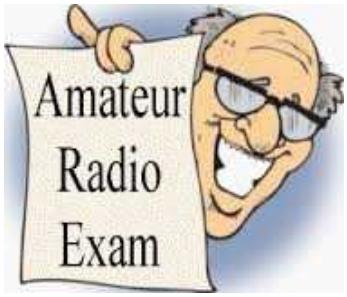
seems to confirm that solar activity was responsible for detonating deeply submerged magnetically triggered mines.

Operation Pocket Money was the title of a U.S. Navy Task Force 77 aerial mining campaign conducted against the Democratic Republic of Vietnam (North Vietnam) starting on May 9, 1972. The Task Force was charged with deploying 12,000 sea mines off the coast of North Vietnam. On August 4, 1972, the crew of Task Force 77 aircraft flying near the minefield observed 20 to 25 explosions over about 30 seconds. They also witnessed an additional 25 to 30 mud spots in the waters nearby. The cause of the unexplained detonations remained classified until very recently. The modern consensus suspects a sunspot region, identified as MR 11976, that set off a series of X-class solar flares and CME's in between August 4 -7 of that year. Recent studies have shown that this region was also responsible for one of the first recorded gamma-ray bursts from our sun and for producing a hole in earth's ozone layer in the southern polar region.

As our dependence on microelectronics grows, so should our awareness of the effects of solar storming. When the next peak arrives in about 2024-2025, will you be ready?

Additional Resources:

- https://spaceweatherarchive.com/2018/11/10/space-weather-in-wartime-a-sunspot-detonates-naval-mines/
- https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2018SW002024
- https://www.smithsonianmag.com/smart-news/did-huge-solar-storm-detonate-mines-during-vietnam-war-180970771/
- https://www.youtube.com/watch?v=i6YS51LjqWs Informal Solar Storm Forecast & AMS 2019 Highlights: 01-12-2019 by Tamitha Skov
- https://hackaday.com/2019/01/22/the-1859-carrington-event/



ARRL Licensing Exam: SIERA offers licensing exams on the third Saturday every odd month at 9 a.m. at Station 51 Fire Station at 777 South Stewart St., Carson City. Bring a photo ID, a copy of your license if you're upgrading, and $15. Contact: Greg Moore at KG7DMI@frontier.com for more information.

The next Licensing exam: March 16.

Speaking of licenses, just a friendly reminder to check the expiration date on your license to make sure you don't miss renewing with the FCC. If it expires, you will need to take the exams all over again. Also, whenever you move, notify the FCC of your new mailing address.

On January 19th, these two earned their Technician's Licenses:
Cliff Dunseth - Technician
Zachary Cupp - Technician

And another HAM elevated to Extra upgrade:
Malek Davarpanah - KI7DYM

Check us out on Facebook: https://www.facebook.com/SIERA

We post information at least once a week to keep friends tuned in to our classes, events, meetings, and get-togethers. Also, the page is available to post ads selling your equipment or announcing events you would like to include in SIERA's roster of activities. So, if you have a photo and news to share, an announcement that can't wait for the Beacon, or a radio to sell, send an email to: scauhape2002@yahoo.com. We'll get it on Facebook for the world to see.

DCART News:

Members of DCART were advised to learn Winlink and FLDIGI to have more ways to contact outside resources during major disasters. In the Camp Fire last autumn, even HAM stations and repeaters were adversely effected. If you are interested in learning these, here is the information Sheila Clement, the ARES/DCART representative for Douglas and Alpine Counties, emailed to DCART members:

Winlink:

Winlink is a worldwide radio email service that uses radio pathways where the Internet is not present using smart-network radio relays. Winlink provides its users email with attachments, position reporting, weather and information bulletins - especially important in emergencies. Register with Winlink and use it. Also, get Winlink Express, a free download link on website: https://winlink.org

Our Sacramento Valley ARES Section, *www.sacvalleyares.org*, has some great Winlink articles. Especially check out the Ham Nation interview with our Sacramento Valley Section Emergency Coordinator, Greg Kruckewitt, KG6SJT. You get glimpses of their field ham station setups and can review his Winlink comments.

FLDIGI:

From Wikipedia:
Fldigi, the Fast Light Digital modem application, is a free and open-source program which allows an ordinary computer's sound card to be used as a simple two-way data modem. The software is mostly used by amateur radio operators who connect the microphone and headphone connections of an amateur radio SSB transceiver or an FM two way radio to the computer's headphone and microphone connections, respectively. This interconnection creates a "sound card defined radio" whose available bandwidth is limited by the sound card's sample rate and the external radio's bandwidth. Such communications are normally done on the shortwave amateur radio bands in modes such as PSK31, MFSK, RTTY, Olivia, and CW (morse code). Increasingly, the software is also being used for data on VHF and UHF frequencies. Using this software, it is possible for amateur radio operators to communicate worldwide while using only a few watts of RF power. Fldigi software is also used for amateur radio emergency communications when other communication systems fail due to natural disaster or power outage. Transfer of files, emails, and FEMA ICS forms are possible using inexpensive radio hardware. Software by W1HKJ & Associates: www.w1hkj.com

Carson Valley Medical Center HAM Station

Years ago, SIERA set up a radio station in the Carson Valley Medical Center to assist them during disasters. The problem with that was that hospital personnel willing and able to earn their licenses would also be needed for critical care in the hospital.

Over the ensuing years, the station was forgotten, equipment shoved into a closet, and finally lost by a succession of administrators who saw no need for HAM radio.

Fast forward to 2019 and a new administrator. With lots of remodeling going on, the equipment was found, and the need for amateur radio communications is being readdressed. Ed Law and Leroy Clement, KA7UIS, who have been regular check-ins on local hospital nets, are working with CVMC to reinstall a radio station in the hospital.

Happy Birthday to:

David DeAngelis K1SCN
Jon Hoffman AG7BY
Don McRoberts W3DRM
Tom Tabacco KE7NCJ

BREAKFAST AND LUNCH GATHERINGS

Lots of fun people gather for breakfast or lunch in Carson Valley. Come join us at:

8 a.m., breakfast, every fourth Saturday at the Tail Dragger Café at the Minden-Tahoe Airport.

11:15 a.m., lunch every Wednesday at Jethro's on Kimmerling in Gardnerville.

Nets Available in Carson Valley and Beyond:

The SNARS Noon Net daily on 147.150.
Daily Carson & Eagle Valley net, 6 p.m. on 28.435 MHz USB
BARC Nightly Net, 8 pm on 146.655 pl 131.8, ragchew and pre-check-in at 7:30 p.m.
DCART Net, Mondays at 6:30 p.m. on 147.270.
TARA Net, Mondays at 7:30 p.m. on 147.240.
SIERA VHF Net, Tuesdays at 7:30 p.m. on 147.330.
SIERA HF Net, Tuesdays at 8 p.m. on 3982kH.
Plumas County Net, Tuesdays at 7:30 p.m., on 145.470.
Brad Smith's (WT6B) *Watering Hole,* Wednesdays at 7:30 p.m. on 147.330,
"*questions and answers pertaining to amateur radio.*"
SKYWARN at 7 p.m. Wednesdays.
NV ARES Net Thursdays at 7 p.m. Echolink conf server NV-GATE 152566
IRLP Western Reflector Ch8:9258
SNARS Hospital Net, Fridays at 10:00 a.m. on 147.030 or 147.150
(SNARS Linked Repeaters: https://snars.org)
RARA Rural Amateur Radio Assn., Fridays at 8 p.m. on 147.180 pl 123
ARES HF Net, Saturdays at 7 a.m. on 3965kH (+or - QRM).

RARA, Rural Amateur Radio Association, Saturdays 7:30 a.m. on 3965kH
New Hams Net, Sundays at 1 p.m. 146.760 pl 123
National Traffic Service Net, Sundays at 6:15 p.m. on 3945kH

- ∞ High Stability temperature compensated master Oscillator installed.
- ∞ Dual receivers, offers split operation for DX contacts
- ∞ Internal Antenna tuner installed.
- ∞ Yaesu DNR (Dynamic Noise reduction), Plus IF shift and Contour controls.
- ∞ Has been my "daily driver" for 7 years. Works perfect. Look up reviews on EHAM.

Because of our post-holiday party during January's usual meeting, there will be no minutes.

If you have photos and/or can write a short description of whatever you're doing, send it to the Beacon at scauhape2002@yahoo.com. We'd all like to hear about your adventures with amateur radio.